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Collapsible vehicle cover

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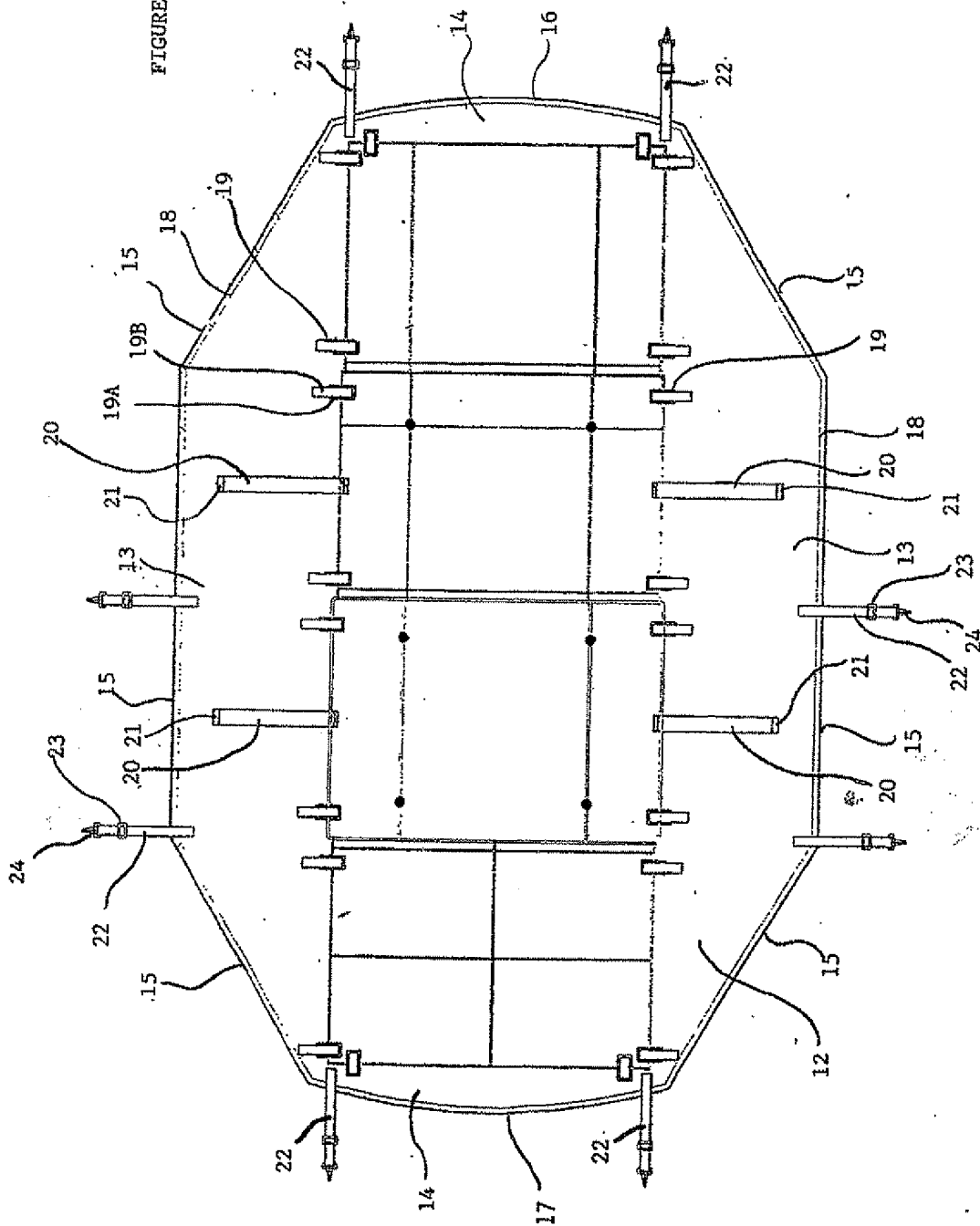
ABSTRACT

There is a protective canopy for a vehicle (25). The canopy includes a cover (12) of weather resitant sheet material which is disposed over a support structure comprising a set of frames (1, 2, 3 and 4) foldable between a collapsed configuration adapted for storage in the vehicle boot and an open configuration for placement on said vehicle. The structure when in the open configuration on the vehicle (25) has downwardly extending legs (11) which support the canopy above the vehicle roof. There are also straps (20, 22) for attaching the canopy to the vehicle.



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FIGURE 4





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COMPLETE SPECIFICATION

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Complete Specification for the invention entitled: COLLAPSIBLE VEHICLE COVER

The following statement is a full description of this invention, including the best method of performing it known to me:

This invention relates to accessories for vehicles. More particularly although not exclusively it discloses an improved cover for motor vehicles such as cars.

Exposure to ultraviolet light or hail can cause rapid deterioration and even irreparable damage to the paint and body panels of vehicles. In cold conditions ice can also build up on exposed vehicle windows. For this reason most owners especially of late model vehicles endeavour to garage them or at least park under a shelter of some kind. In many

situations however such as when travelling, undercover parking is either not available or must be paid for. Currently the only type of portable low cost shelter available for vehicles comprises a thin plastic or nylon sheet which is draped directly over the vehicle and tied in place. Such covers however cause condensation build-up through lack of air circulation and further, due to direct contact, scratch the paint work when there is a layer of dirt or grit present.

It is therefore an object of this invention to ameliorate the aforementioned disadvantages and accordingly a protective canopy is disclosed for a vehicle, the canopy including a cover of weather resistant sheet material disposed over a support structure, said structure being foldable between a collapsed configuration adapted for storage in the vehicle boot and an open configuration for placement on said vehicle, and said structure when in said open configuration on said vehicle having a plurality of downwardly extending legs which

support at least a portion of said canopy at a position spaced above the vehicle roof and attachment means for releasably securing said canopy in place on said vehicle.

Preferably when in said collapsed configuration the support structure is substantially flat so that the canopy can be stored on the floor of said boot.

It is further preferred that said attachment means include adjustable flexible straps with hooks.

The currently preferred form of the invention will now be described with reference to the attached drawings in which:

Figure 1 shows a plan view of the canopy support structure without the cover sheet,

Figure 2 shows a side elevation of the structure of figure 1 in the open configuration,

Figure 3 shows a side elevation of the structure of figure 1 in the collapsed configuration,

Figure 4 shows an underside view of the open support structure with the cover sheet attached, and

Figures 5 and 6 show the canopy being installed on a motor vehicle.

Referring first to figures 1 and 2 the support structure may comprise four rectangular wire frames designated 1 to 4 which are hinged together along their abutting edges. While the

invention is not restricted to any particular form of hinge. with this embodiment short wire struts 5 protruding from frames 1, 3 and 4 are bent around the end members 6 of adjacent frames. To enable such arrangement the frames 1, 3 and 4 may be of slightly reduced width as compared with the main frame 2. For added rigidity the frames also include internal brace members 7, 8, 9 and 10. As best shown in figure 2 one end 10A of frame 2 is also angled up from the main portion. This enables the other frames 1, 3 and 4 to fold down onto frame 2 in a substantially flat space saving configuration as illustrated by figure 3.

Preferably as shown the centre frames 2 and 3 are fitted with pairs of downwardly extending support legs 11.

Turning now to figure 4 the cover 12 may be of any suitable type of weather and/or ultraviolet resistant flexible material such as shade cloth. One type of material which may be used with this embodiment is that sold under the trade name SIMOTEX COMBO by M. Simonson (Aust) of Smithfield New South Wales.

The cover 12 when spread out as shown in figure 4 is preferably of an elongated octagonal shape with side and end flaps 13 and 14 bounded by straight side edges 15 and rounded front and rear edges 16 and 17. The cover is preferably folded and stitched at 18 along each edge to prevent fraying.

There are a series of velcro type fastening straps 19 of any suitable design which removably attach the cover onto the frames referred to earlier. With this embodiment the female half 19A of the velcro material is sewn entirely onto the cover and the male section 19B is sewn at one end only to prevent accidental loss. To effect attachment of the cover the free unsewn portion of the male velcro strap is passed over a frame member and then mated with the female strap. While the invention extends to the use of other types and placement of fasteners for the cover the particular arrangement shown for this embodiment has been found to satisfactorily hold the cover in place on the frame. There are also four straps 20 attached to the sides of the frames to locate over each door of the vehicle when the canopy is in place. The free ends are fitted with dowels 21 or the like so that upon closing and locking a vehicle door on each strap the canopy is securely held against wind force or unauthorised removal.

The outer edges of the cover are also fitted with nylon straps 22 having adjustment buckles 23 and hooks 24 of any suitable design.

In use as shown in figures 5 and 6 the canopy (initially in its folded configuration) is placed so that the support legs 11 extending down from frame 2 rest on the rear roof portion of the vehicle 25. Preferably these legs are fitted with soft rubber or foam pads 26 to prevent damage to the vehicle

paint. The other frames 1, 3 and 4 are then folded out toward the front and rear of the vehicle as shown in figure 6 to cover the front windscreen 27 and rear window 28. The additional pair of support legs 11 on frame 3 then engage the front roof portion to provide an elevated canopy over the top of the vehicle. Following this the vehicle doors 29 are closed on the straps 20 to hold the canopy in place and the straps 22 hooked onto the vehicle door handles, wiper blades or other exterior trim as required to secure the side and end flaps.

With the canopy so installed the vehicle is protected from the damaging effects of sunlight. The elevated position of the canopy above the roof also provides ventilation space to reduce heat build-up in the vehicle interior and eliminate condensation. It further provides a deflection space to enable the canopy to absorb the impact of hailstones or other falling debris without contacting the vehicle surface.

In order to remove the canopy the above installation procedure is reversed with the straps being disconnected, and the frame then being folded and removed for storage.

It will thus be appreciated that this invention at least in the form of the embodiment described provides a novel and useful form of protective vehicle cover. Clearly however the example disclosed is only the currently preferred form of the invention and a wide variety of modifications may be made

which would be apparent to a person skilled in the art. For example the shape and configuration of the frame and cover may be changed according to vehicle type and size. The invention also extends to the use of any suitable weather resistant material for the cover although a woven plastic shade cloth is currently preferred.

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The claims defining the invention are as follows:

1. A protective canopy for a vehicle, said canopy including a cover of weather resistant sheet material disposed over a support structure, said structure being foldable between a collapsed configuration adapted for storage in a vehicle boot and an open configuration for placement on said vehicle, and said structure when in said open configuration on said vehicle having downwardly extending leg means which support at least a portion of said canopy at a position spaced above the vehicle and attachment means for releasably securing said canopy in place on said vehicle.

2. The canopy as claimed in claim 1 wherein the support structure includes a set of frames foldable with respect to one another whereby said structure when in said collapsed configuration is substantially flat.

3. The canopy as claimed in claim 2 wherein said frames are hinged together along abutting edges.

4. The canopy as claimed in claim 3 wherein one or more of said frames have said downwardly extending legs means attached thereto.

5. The canopy as claimed in claim 4 wherein said frames are generally rectangular in shape and are constructed from metal wire.

6. The canopy as claimed in claim 5 wherein said sheet material is attached to said support structure by means of hook and loop straps.

7. The canopy as claimed in claim 6 wherein said cover is of an elongated octagonal shape with side and end flaps extending outside said support structure.

8. The canopy as claimed in claim 7 wherein said attachment means include a first set of straps with dowels fitted to the ends thereof for closing in the vehicle doors and a second set of straps with hooks for connecting to exterior trim of said vehicle.

9. The canopy as claimed in claim 8 wherein in a position of use on said vehicle said end flaps cover the windscreen and rear window and said side flaps cover the side windows.

10. A protective canopy for a vehicle, said canopy being substantially as described herein with reference to the drawings.

Dated this *14th* day of *march* 2000

Carl Stephen Minett
By His Patent Attorney
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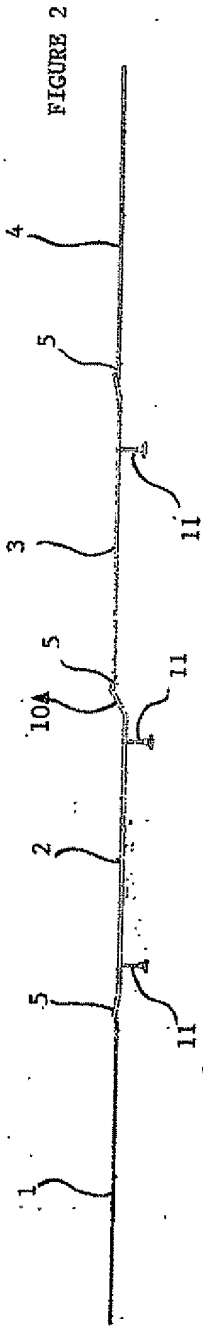


FIGURE 2

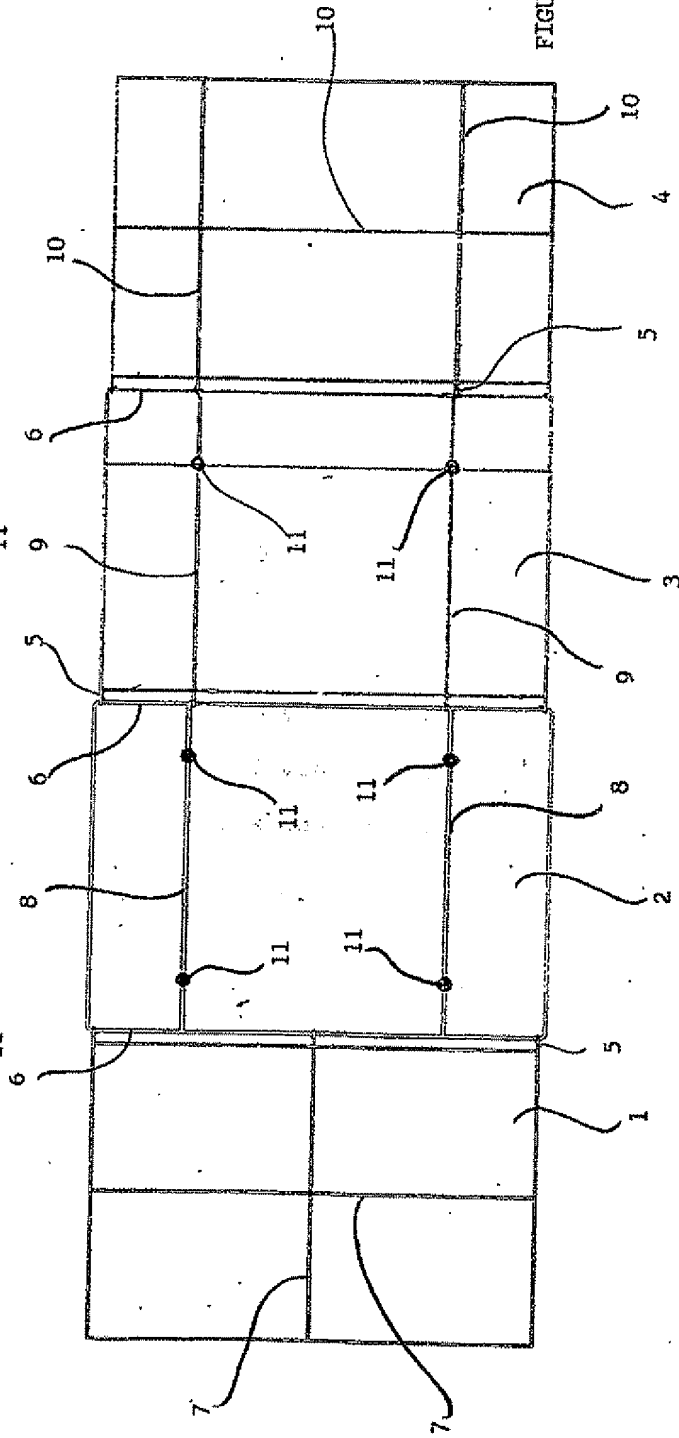


FIGURE 1

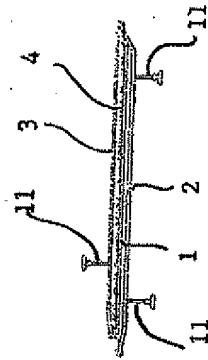
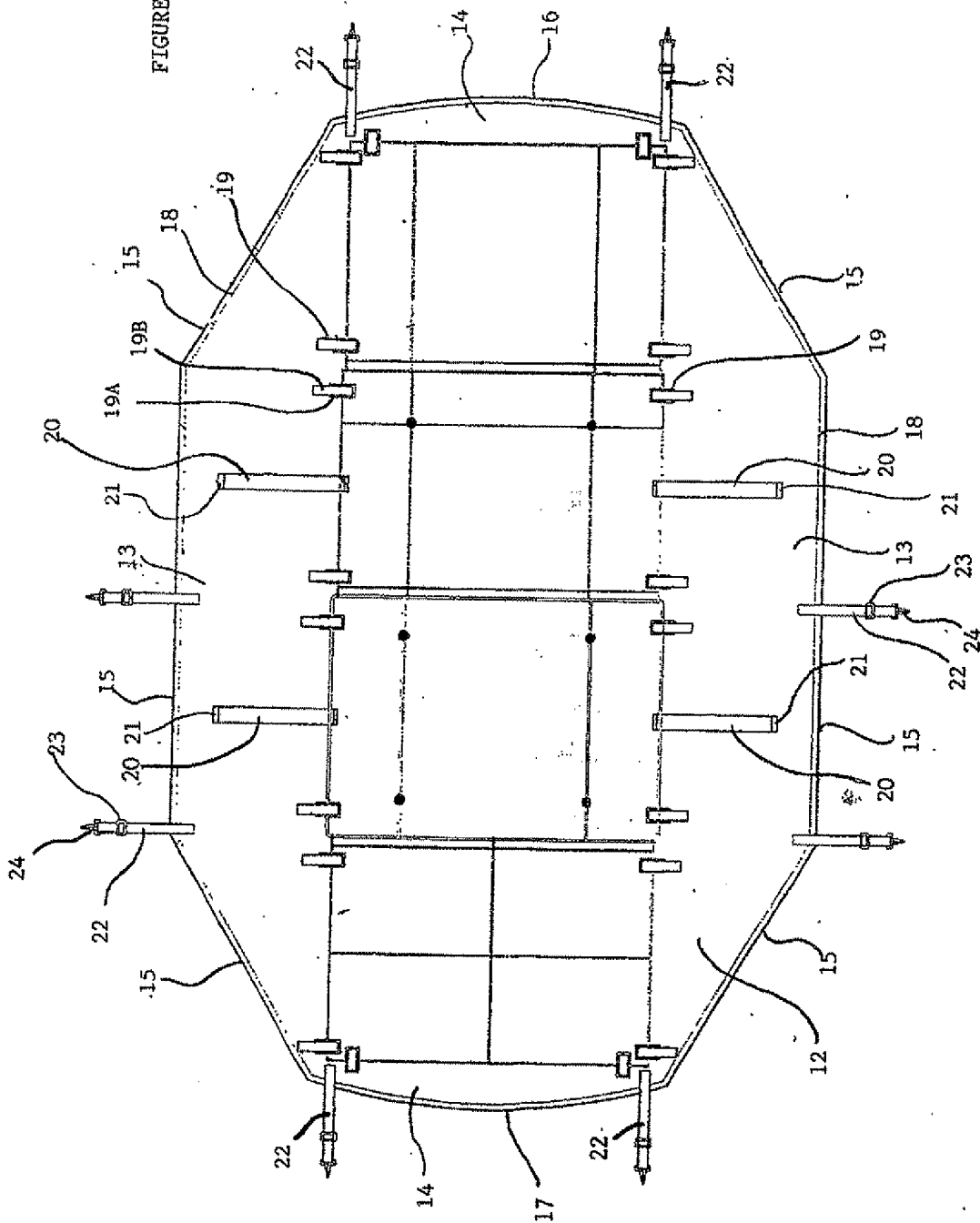


FIGURE 3

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FIGURE 4



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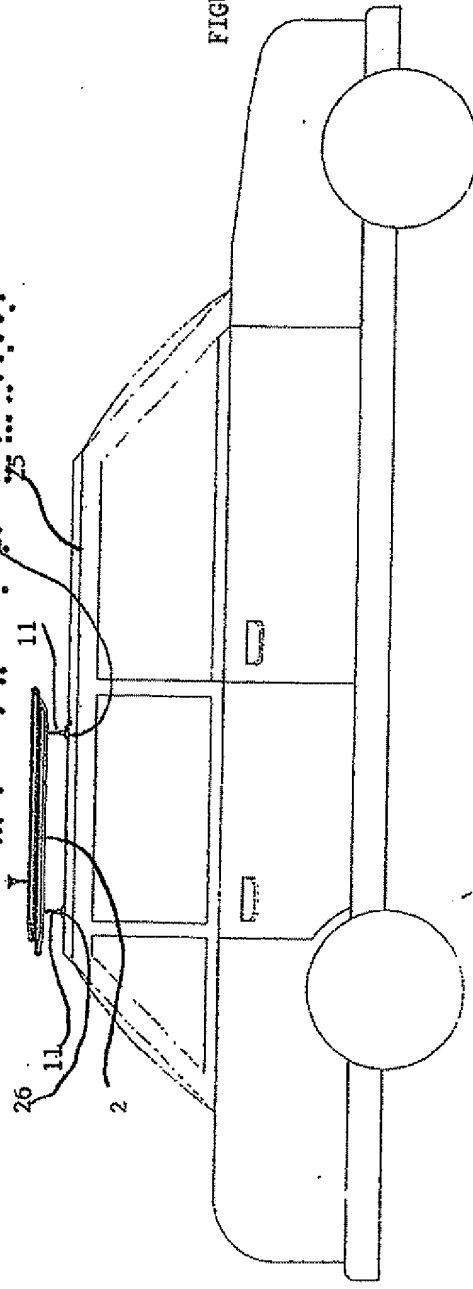


FIGURE 5

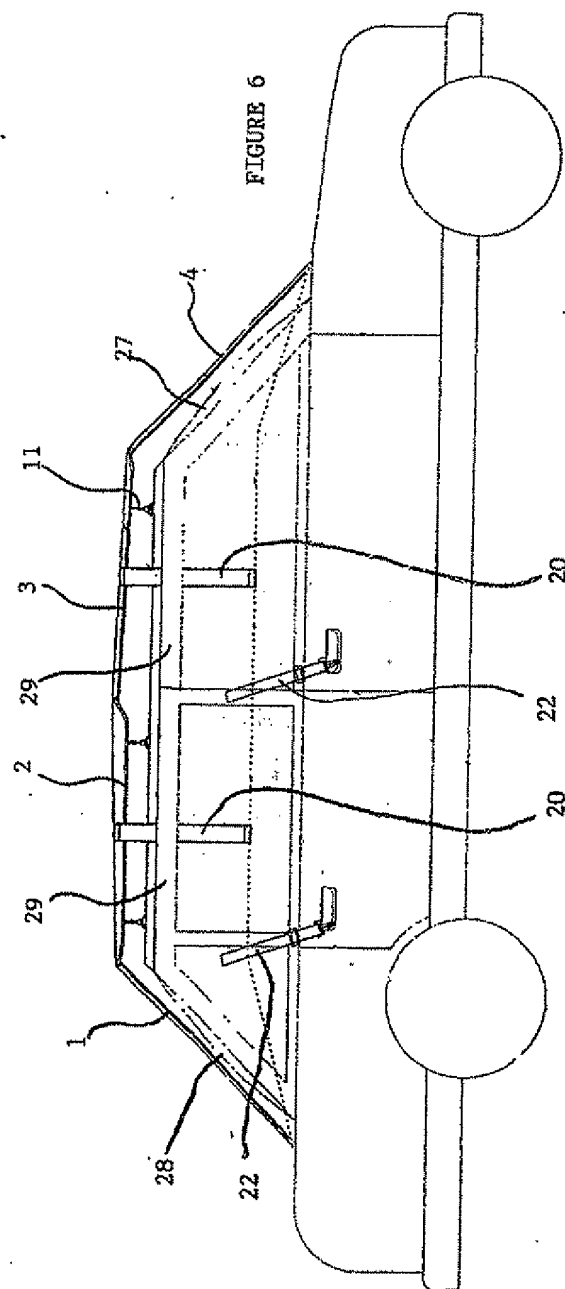


FIGURE 6